



MESSAGE FROM THE PRESIDENT

A new year begins for our foundation, one that will be undoubtedly be marked by important events, like celebrating the 50th anniversary! We have a rich history of accomplishments among these first 50 years, such as a journal that is highly valued and appreciated by raptor researchers worldwide, as well by other ornithologists and conservation agencies. Every single year we have a wonderful conference, where up-to-date and cutting-edge scientific knowledge is shared among participants, contributing to our understanding of raptor ecology and their conservation problems. These are a few examples of the past and current achievements of RRF.

Celebrating our first 50 years of existence should be a moment to enjoy, and we will do that, I promise you, at our annual meeting. Our friends in Cape May are putting together an amazing program indeed. Learn more about it in this issue of *Wingspan*. Besides celebrating, this anniversary becomes more important when we start thinking **what can we do in the next 50 years?** I encourage you to let us know what you think the future of Raptor Research Foundation should be. Where do you want our organization to go? What would you like your foundation to do in the next 50 years? What new goals and achievements should we pursue? We have a really impressive past, and to honor it we have the obligation to keep growing. Let's start building a new future for RRF, raptors worldwide, and our members. Please, consider this: get involved, bring your ideas to the President, your Directors and/or your Committee Chairs.

The founders of our organization were very clever people. They knew that team work was the best way to approach the conservation problems many species of raptors faced at that time all around the world. They didn't hesitate to pull up their sleeves and start rolling on a unique idea: an organization devoted to birds of prey. The first one of its type in the world! I am sure the members that were there at that time are very proud of where we are now. Speaking of pioneers, last year during the excellent conference held in Sacramento, CA, I had the privilege of meeting some of them that in 1965 met in Wisconsin, USA, to discuss the threats Peregrine Falcons were facing worldwide. Many of them, coincidentally, participated in the launching of our Foundation a



year after that meeting. While attending their presentations, listening to their stories and to what they did 50 years ago, I found their work, their imagination, their “go for it” attitude, and their passion for raptors really inspiring! If you attended the meeting I hope you felt the same way as I did. We would not be where we are today without those that preceded us, full of passion and commitment to change the world.

They were, are, and will always be an inspiration for all of us, to continue working together, to pursuing goals that someone may think are crazy, very difficult, or perhaps impossible to achieve. And these are the dreams and goals I believe we should pursue. Without these type of dreams and goals, and without challenges, we will not grow. This is what I expect from RRF in the coming years. To live up to the expectations of our founders and members from the last 50 years. To take on these new challenges. To explore new venues for conferences, to embrace members from all around the world, and to become even more active in the pursuit of reaching new frontiers in raptor research and conservation. We should continue evolving and adapting!

RRF is truly an international organization, and the number of members from all around the world continues to increase. Recent RRF meetings held in Scotland and Argentina are great examples of this very important aspect of our organization’s plans. We want to have meetings all around the world, where science, discussions, and conservation actions happen alongside great camaraderie and friendship. There is a place for everyone in the Raptor Research Foundation and everyone can share our mission. We need to offer a friendly welcome everyone that decides to join us. I do not remember any other scientific meeting where I experienced so much this unique type of comradery, being warmly accepted by my peers, making new friends, and socializing with people that share the same passion for raptors from all around the world. I really enjoy, and I am sure everyone enjoys this diversity. It is a blessing for us and we should protect and promote it. We all benefit from this diversity, learning what is going on in different parts of the world, understanding what challenges and problems raptors face in the Americas, Europe, Asia, Africa and Oceania, and how science, with any regard of where comes from, can contribute to raptor conservation worldwide. I hope you heartedly join us in celebrating the diversity we have in our membership!

As the new president, I have the great pleasure of finding myself working in coming years with an amazing group of talented, dedicated, and professional people that allocate much of their time to be part of our Officer’s body, Board of Directors, and committees. I am also very grateful to those that held office or Board positions in past years, as I learned a lot from all of them. They all did, and still do, amazing things to keep our society alive, fresh, and moving forward. So again, imagine how much we can achieve, if every single member gets involved in RRF! How many goals and dreams can become true if you decide to follow in the footsteps of those that preceded us? The world is going through very dramatic changes; we do not have any time to lose. Everything counts! Become not just an observer of our future, but an actor!



I hope you will enjoy this new issue of *Wingspan*. We have a lot of news regarding our 50th year anniversary celebration and the upcoming annual conference to be held in Cape May, New Jersey. We will learn the results

of the work done by different committees in the past months and keep up with important updates and research news from some of our members. I look forward to hearing from you and, hopefully, will see you in Cape May. You do not want to miss this year's annual conference!

Miguel Saggese

RAPTOR RESEARCH FOUNDATION, INC
(Founded in 1966)

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President: Miguel Saggese	Secretary: Joan Morrison (interim)
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North America #2: James Dwyer	At Large #5: Torgeir Nygård
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Editor-in-Chief, *Journal of Raptor Research*: Cheryl Dykstra
Editor, *Wingspan*: Brian Washburn
Website Coordinator: Libby Mojica

For more information about the Raptor Research Foundation, Inc. (founded in 1966), please visit the RRF website at: <http://www.raptorresearchfoundation.org/>.

Persons interested in birds of prey are invited to join the Raptor Research Foundation (RRF). *Wingspan* is emailed twice each year to all members of RRF and is available on the RRF website. Members also receive *The Journal of Raptor Research* (ISSN 0892-1016), which is published quarterly. For membership and subscription information, please contact: **Ornithological Societies of North America**, 5400 Bosque Boulevard, Suite 680, Waco, TX 76710, USA; 1-254-399-9636 (phone); 1-254-776-3767 (fax); business@osnabirds.org (email); <http://www.osnabirds.org> (web).

Editor's Note – Thanks to the following contributors for this issue of the *Wingspan*: Paul Andreano, Karla Bloem, Kate Davis, Allen Fish, Jennifer Coulson, Cheryl Dykstra, Grainger Hunt, Erin Katzner, Jeff Lincer, Jody Millar, Libby Mojica, Cameron Nordell, Gerald Niemi, Jeep Pagel, Jemima Parry-Jones, Miguel Saggese, Julie Thi Underhill, and Beth Wommack.

Wingspan welcomes contributions from RRF members and others interested in raptor biology and management. Please submit contributions via email to Brian Washburn, *Wingspan* Editor, at rrfwingspan@gmail.com. For long contributions, please send as a MS Word attachment. If you are submitting photos, please include them within the MSWord document with a caption and photo credit. Contribution deadline for the next issue is **15 August 2016**.

All issues of *Wingspan* and content guidelines are available at:
<http://www.raptorresearchfoundation.org/publications/wingspan-newsletter/online-newsletters-pdfs>

“Hatchlings and Fledglings”

As with any dynamic organization, changes within the RRF Leadership Group occur each year. At the RRF Annual Business Meeting, the 2015 election results were announced:

- ✂ DIRECTOR AT LARGE OUTSIDE NORTH AMERICA: Jemima Parry-Jones (Re-elected)
- ✂ DIRECTOR NORTH AMERICA #2: James Dwyer
- ✂ DIRECTOR AT LARGE #2: Travis Booms
- ✂ DIRECTOR AT LARGE #5: Torgeir Nygård (Re-elected)

Congratulations and huge thanks to all of those involved in these essential positions. Understanding that everyone has a “day job”, the dedication and commitment of all RRF members is truly fantastic! The 2015 RRF Conference was a showcase of this. Some unforeseen issues arose and were addressed at the Board of Directors meeting in Sacramento.

Gerald Niemi graciously “volunteered” to help with 2 very important needs – he will fill the remain year of Miguel’s Board Position (At Large #1) **and** he will fill the massive “gap” left by Kate Davis and will serve as the Conference Committee Chair (until November 2017).

Joan Morrison kindly agreed to serve as the interim Secretary (as Greg George had to step down before his term ended).

Richard (Rob) Bierregaard agreed to serve as the new Financial Committee Chair.

Elizabeth (Beth) Wommack is the new Scientific Program Committee Chair, following up behind the fantastic job that James Dwyer did (James is a new Board Member).

Joe Eisaguirre is the new Early Career Raptor Researchers Committee Chair, following up behind the phenomenal job Travis Booms did (Travis is also a new Board Member).

Julio Gallardo is the new Membership Committee Chair. Julio also was extremely kind and offered to translate *Wingspan* into Spanish, and I will be taking him up on the offer!

Megan Judkins is taking on the role of Facebook Administrator and Website Committee member, a new position that should prove to be very beneficial for RRF.

We are indebted to all of those who serve the RRF in all of these capacities!!!

Member Profile – Sergej Postupalsky

Submitted by Brian Washburn



The RRF is a truly diverse group, consisting of members from academia, state and federal agencies, non-governmental organizations, educational groups and foundations, falconers, and many other facets. In an effort to continue introducing the amazing people in RRF, the Member Profile within this issue of *Wingspan* focuses on someone who has been inspiring friends, colleagues, students, and others for more than 60 years, Sergej Postupalsky. Sergej, a native of Czechoslovakia, immigrated to the United States when he was 17 years old. After obtaining a B.S. from Wayne State University and an M.S. from the University of Michigan, he began a life-long Bald Eagle and Osprey monitoring program in Michigan. For the past 54 years (without missing a single one!), Sergej has kept a close watch and meticulous records on Osprey populations in Michigan.

To this day, he continues to remind our profession about the importance of standardized terminology (his voice rings – along with Karen Steenhof's and Carol McIntyre's – in my head when I think of nest productivity!), the pursuit of invaluable data, and stirs our passion for birds of prey! Sergej you are a true inspiration to all of us!

RAPTOR RESEARCH FOUNDATION 2015 ANNUAL CONFERENCE

Submitted by Allen Fish

Raptor Researchers could also attend one of six classes on raptor techniques, each taught by an expert in the field. Among the classes: Satellite/Radio Telemetry; Climbing to Nests; Necropsy; Trapping and Handling; Blood Sampling; and Ageing, Sexing, and Molt. Expert teachers who gave freely of their time and expertise were: Bill Clark, Buzz Hull, Jeep Pagel, Pete Bloom, Krysta Rogers, Steve Lewis, Libby Mojica, John Smallwood, and Dan Varland.

Great thanks to all of our Early Career (ECRR) teachers and especially to organizer ECRR Chief Travis Booms. Matt Stuber organized the ECRR reception which brought hundreds of young biologists forward to meet the ancient redwoods of our industry. Thanks to Travis who incentivized the reception with donated wine from Terravant Vineyards, owned by raptor aficionado Lew Eisaguirre. Lew bottled a Peregrine Pinot Noir just for the occasion; Hans Peeters donated a new Peregrine painting for the label.



Perhaps the high point of the Sacramento meeting was the 50-year celebration of the Madison Peregrine Conference. Jeep Pagel hosted and organized the 90-minute panel on Saturday morning, honoring the event that many consider to be the precursor to the RRF's founding in 1966. In 1965, Professor Joe Hickey (successor to Aldo Leopold at UW) hosted the first gathering of biologists to discuss the Peregrine Falcon decline, held at the University of Wisconsin, Madison. Tom Cade noted that this may have been the first conference of any scientific group that might be called "conservation biologists." At any rate, the 4-day session in 1965 was a pivotal point in conservation biology, setting the stage for an incredible and successful 40-year Peregrine recovery effort.

Of the 60 biologists and policy experts that attended in 1965, five members (Dan Anderson, Dan Berger, Steve Herman, Grainger Hunt, and Clayton White) flew or drove to Sacramento to be part of the 2015 panel, while three others (Tom Cade, Sergej Postupalsky, and David Hancock) kindly sent videos of greetings and remembrances. Glenn Olson, VP of National Audubon Society, offered insights based on Audubon's involvement, and Dr. Stan Temple sent a video greeting in particular honoring his predecessor at UW, Joseph Hickey.

Some common threads rang through the stories told by each speaker: (1) the Madison Conference set the agenda of their life's work; (2) the Peregrine recovery seemed at first to be an impossible goal; (3) and an incredibly cohesive effort from an incredibly disparate group of people created the

phenomenally quick species recovery that we all know about today. It's one thing to report on this 90-minute panel discussion now; it is another to have been there. The event was extremely moving.

I'm sure this was different for each listener, but for me, each panelist was deep in his thinking, articulate in his memories and message, and the message often went far beyond Peregrine Falcons. The common thread was how an unsurmountable ecological disaster was overcome. Of course that story comes from a far simpler time and place than California in 2015. How much more complicated life is today, between economic inequality, the overuse of technology and energy, and the massive carbon footprints we leave behind. But still, the Peregrine story has some hope in it, and perhaps some strategy as well. We did something right.

The 50th Anniversary Panel of the Madison Peregrine Conference was taped by GGRO volunteer Nancy Brink. Nancy worked tirelessly this winter to split the 90-minute event into 5 segments that could be managed by YOUTUBE, and she has integrated the four video-greetings from panelists and greeters who could not travel to Sacramento. The entire event can be accessed on-line at:

<https://www.youtube.com/watch?v=vtTwT9njzE&index=1&list=PLhOgtsiT9lYxIx5xYfU-sgMiXKH--oj-2>

For those who might want to delve into the abstract "summaries" of the 200 papers presented at 2015 RRF Conference, the entire document is at the URL below—skillfully designed by GGRO bander Lynn Bantley and artfully decorated with California raptor photos.

http://www.raptorresearchfoundation.org/wp-content/uploads/2015/11/2015_conference_program.pdf

On the last day (Sunday), amidst the first rains we've seen in California since the previous spring, we launched 3 field trips with 40+ raptor-ready conferencees. All trips came back only slightly sodden, but with; great bird lists; some first-time sightings of Burrowing Owls, White-tailed Kites, and Yellow-billed Magpies; a great drive and walk through the Altamont Pass with a Ferruginous Hawk soaring directly overhead; a visit to the remnant native prairies of California, home to hundreds of wintering Mountain Plovers; and a tour of the ancient Valley Oak forests with their winter Merlins keeping watch over Savannah Sparrow flocks. Thanks to all of our high-quality tripleaders: Ron Melcer Jr., Rachel Gardiner, Doug Bell, Joe DiDonato, Zach Smith, and Bob Power.

Finally, the conference was made possible by more than 90 donors, including individual and corporate-foundation donors. Our sincere and deep thanks are especially due to the GGRO volunteers, to the Greg Hind Endowment, to corporations CH2M Hill, Garcia and Associates, HT Harvey and Associates, Bloom Biological, Pacific Gas and Electric, and to the UC Davis School of Veterinary Medicine, and the University of Nevada, Reno, Academy for the Environment. The great people at the Mendocino Brewing Company provided Redtail Ale for the Poster Session.

The Wildlife Society's Western Section provided the name tag holders, several computers, and their (and now our) secret weapon, conference organizer Candace Renger. Critical conference management was provided by the GGRO's core team of leaders: Laura Young, Chris Briggs, Christine Carino, and Kristine Vanseky. And we all owe a great debt of gratitude to RRF's Conference Chair, Kate Davis, who applauded, encouraged, flogged, cajoled, and pressed this conference into existence. And she was a blast to work with.

PHOTOS FROM THE 2015 RRF CONFERENCE
Graciously provided by Kate Davis and Julie Thi Underhill



**2015 James Koplin Award Winners:
Megan Judkins, Marie-Sophie Garcia-
Heras, J Rowen Van Eeden,
Tempe Regan, and Robert Spaul**



**Conference attendees enjoying
ECRR social mixer**



**Tom Cade sent a video message to
the audience and his fellow Madison
Peregrine Conference members**



**Pete Bloom thrilled all
with an excellent plenary
presentation on California raptors**



Students gaining real-world skills during the ECRR workshops



Attendees enjoying the poster presentations



Clint Boal presents the RRF President's Award to Travis Booms and Libby Mojica



Many thanks to the GGRO staff who helped make the 2015 RRF Conference fantastic!



Tempe Regan presenting her oral presentation that won the William C. Anderson Award

Upcoming Conferences



RAPTOR RESEARCH FOUNDATION 2016 ANNUAL CONFERENCE

**Come Celebrate the 50th Anniversary
of the RRF!!!**

**16–20 October 2016
Cape May, New Jersey USA**

The 2016 Raptor Research Foundation conference promises to be a memorable one as the local committee, anniversary committee and the RRF Board plan to celebrate and commemorate 50 years of raptor research. And what better place to meet than historic Cape May, New Jersey, nicknamed the “Raptor Capital of North America,” at the peak of raptor migration.

Plenary speakers include raptor ecologist Dr. Ian Newton, Dr. Carol McIntyre (Wildlife Biologist with Denali National Park in Alaska), and Dr. Yossi Leshem (Director of the International Center for the Study of Bird Migration in Israel). Many symposium topics are being suggested, including these that are under consideration: Fifty Years of Raptor Research, Women in Raptor Research, and Forty Years of Raptor Research at Cape May. See the Call for Papers and Call for Symposia (below) for more information and details. Presentations on any aspect of raptor biology, ecology, research techniques, conservation, and management are invited.



Early Career Raptor Research Program Workshops will include topics such as banding and harnessing, necropsy, and a visit to an active raptor banding station.

Special activities being planned for the conference include a Dinner Cruise along Cape May’s beachfront, visits to the Cape May Hawk Watch, raptor banding demonstrations, and a special 50th Anniversary Banquet and Celebration.



Field trip destinations include the Cape May HawkWatch, Edward Forsythe National Wildlife Refuge, and raptor banding demonstrations to name a few.

Come and experience the magic that is fall migration in Cape May!

The Raptor Research Foundation invites both oral and poster abstracts for our annual scientific conference, to be held at the beachfront Grand Hotel in historic Victorian Cape May, New Jersey. The Grand Hotel is offering special lodging rates for conference attendees.

The conference will be graciously co-hosted by the New Jersey Audubon Society's Cape May Bird Observatory (CMBO), and the Cape May Raptor Banding Project. This fall CMBO is celebrating its 70th Annual Autumn Birding Festival, as well as the 40th anniversaries of the first Cape May HawkWatch and the beginning

of the Cape May Bird Observatory. The Raptor Banding Project is also celebrating its 40th year! There must have been something in the water in 1976.

To take in the full Cape May experience, RRF participants are encouraged to extend their visits and stay for the Cape May Fall Festival and Celebration, October 20–23. The weekend's keynote speaker will be David Sibley on Friday evening, and Saturday evening will feature a panel discussion among the official seasonal hawkwatchers over the years. It will truly be a star-studded weekend for the raptorphiles among us!



To offer ideas or financial support, for vendors, event sponsor opportunities, or for other information please contact the RRF 2016 Local Committee Chairs, Lillian Armstrong (Lillian.armstrong@njudubon.org) or David La Puma (david.lapuma@njudubon.org).

Conference Information may be viewed at:

<http://www.raptorresearchfoundation.org/conferences/current-conference>

RRF 2016 CALL FOR PAPERS

The Raptor Research Foundation invites oral and poster abstracts for our annual scientific conference. The conference will be hosted by the New Jersey Audubon Society's Cape May Bird Observatory and the Cape May Raptor Banding Project, 16–20 October, 2016, in Cape May, New Jersey, USA. Presentations on any aspect of raptor biology, ecology, research techniques, conservation, and management are invited.

Abstract Submission

You may submit more than one abstract. Submit all abstracts via the conference website at: <http://www.raptorresearchfoundation.org/conferences/current-conference>. Cover letters are not needed. Follow the format explained and exemplified in the Sample Abstract below. Failure to properly format abstracts may result in rejection or return to authors for reformatting.

The deadline for submission of papers is **2 May 2016**, concurrent with the deadline for symposia proposals, and with the deadline for extended abstracts for Andersen Award candidates (<http://www.raptorresearchfoundation.org/grants-and-awards/awards/william-c-andersen-memorial-award>). Authors of accepted abstracts will be notified via email by mid-June 2016. Andersen Award candidates will be further notified via email whether their papers will be included in the Andersen Award competitive oral session, in a general oral session, or in the Andersen poster competitive poster session. Prior to the conference, all authors will be provided with a follow-up email with links specifying the room, date and time of their presentations.

Abstract-related questions should be directed to Beth Wommack (ewommack@uwyo.edu).

Questions regarding Andersen Awards should be directed to Clint Boal (clint.boal@ttu.edu).

For general questions about the conference please contact Lillian Armstrong (Lillian.armstrong@njudubon.org).

Oral Sessions

Oral presentations include either full-length talks (20 minutes including questions) or Speed Talks (10 minutes including questions). Papers must be presented in English, and electronic presentations must be in Powerpoint® format, for display on conference computers. Conference computers and organizers will be available to load presentations during the ice-breaker reception, and prior to the initiation of oral sessions during each day of the conference. Loading of

presentations must occur during these times. Presentations prepared on computers running software other than MS Powerpoint for Microsoft Windows will need to be converted prior to uploading on conference computers.

Poster Sessions

Posters will be mounted on 3' x 4' panels (vertical x horizontal). Materials for hanging posters will be available. All posters must be prepared in English. Poster presenters are required to attend their poster during the poster session.

Sample Abstract

Body Size and Dietary Niche of Sympatric Northern Boobooks (*Ninox japonica*) and Oriental Scops Owls (*Otus sunia*) in Korea

*HAN-KYU KIM (cyaneus87@gmail.com) and MIN-SU JEONG, Lab of Wildlife ecology and Management, Graduate School, Department of Forest Sciences, Seoul National University, Seoul, Korea. CHANG-YONG CHOI, Center for Spatial Analysis University of Oklahoma, Norman, OK, U.S.A. and USGS Western Ecological Research Center, SFB Estuary Field Station, Vallejo, CA, U.S.A. WOO_SHIN LEE, Lab of Wildlife ecology and Management, Graduate School, Department of Forest Sciences, Seoul National University, Seoul, Korea.

Read this paragraph carefully and adhere to the formatting requirements exactly. Abstracts should summarize findings, not methods. Type the title first, using upper and lower case letters as shown above. Do not use abbreviations in the title. After the title, type the first author's name followed by institutional affiliation, city, state or province, and country. Leave single blank lines between the title, authors' names and affiliation, and the body of the abstract. Follow the primary contact person associated with presentation with that person's email address. Use all capital letters for all author names. Precede the presenting author's name with a single asterisk. Use two asterisks before names of students competing for the Andersen Award. The body of the abstract should be one paragraph of no more than 300 words, single-spaced throughout, as illustrated here. Do not indent the first line of text. After the first use of the common name of each species mentioned, write the scientific name in italics and parentheses. Capitalize the common names of all birds. If scientific names are included in the title, do not repeat in the body of the abstract. Use italic type only for scientific names. Spell out whole numbers <10 unless accompanied by a unit (e.g., 3 cm or 1%). Use metric units. Use the following abbreviations without spelling them out: hr, min, sec, yr, mo, wk, d, km, cm, mm. Use continental dating (e.g., 10 July 1975) and the 24-hr clock (e.g., 1300 H). Italicize the following abbreviations: *n*, *P*, *F*, *G*, *k*, *R*, *r*², *t*-test, *U*-test, *Z*, *z*. Use Roman type for these abbreviations: AIC, ANOVA, CI, df, SD, SE. Please reference the instructions to authors for the Journal of Raptor Research, or a recent issue of the Journal of Raptor Research for any details not specified here (<http://www.raptorresearchfoundation.org/publications/journal-of-raptor-research/submission-guidelines>).

RRF 2016 CALL FOR SYMPOSIA

The Raptor Research Foundation invites symposia proposals for our annual scientific conference. The conference will be hosted by the New Jersey Audubon Society's Cape May Bird Observatory and the Cape May Raptor Banding Project, 16–20 October, 2016, in Cape May, New Jersey, USA.

The deadline for submission of symposium proposals is **2 May 2016**. Early submission is welcome, and highly encouraged. Chairs of symposia selected for inclusion in the conference will be notified as submissions are received and approved. Successful symposia at previous RRF meetings have included species-specific and genera-specific foci, interactions of raptors with anthropogenic influences, and topics of general interest to raptor ecologists.

Symposia proposals should include:

1. Symposium title for the RRF conference website.
2. Name and contact information for symposium chair for the RRF conference website.
3. A 3-5 sentence rationale for the symposium's topic for the RRF conference website.
4. Names of authors the symposium chair has recruited to participate in the symposium, and general title or description of each author's oral presentation.

Successful symposia will likely include at least 6 related papers, or enough papers to fill at least a half-day session, and will run concurrent with general scientific sessions or other symposia. Prospective symposia chairs are encouraged to suggest symposia even if they have recruited fewer than the ideal number of speakers because related abstracts received through the general submission process can be used to complete symposia.

Questions regarding symposia should be directed to Beth Wommack (email: ewommack@uwyo.edu).



6th North American Ornithological Conference

Joint Meeting of American Ornithologists Union, Cooper Ornithological Society,
Society of Canadian Ornithologists, and Wilson Ornithological Society

16–21 August 2016

Washington Hilton Hotel

Washington, DC

www.naoc2016.org



2016 International Conference on Overhead Line Structures

EDM International, Inc. (EDM) is hosting their biennial conference in Fort Collins, Colorado on 3–7 April 2016.

The conference will include a special session on utility standards and raptor protection. This technical session will address the challenges electrical companies face in selecting appropriate products and methods to mitigate raptor and other animal-caused outages.

For more information see: <http://www.edmlink.com/international-conference-on-overhead-line-structures> or contact Rick Harness (email: RHarness@edmlink.com)

News from the RRF

Announcing the Winner of the 2015 Leslie Brown Memorial Grant Submitted by Jeff Lincer

We are happy to announce that the 2015 Leslie Brown Memorial Grant goes to Dr. Petra Sumasgutner who recently completed her Ph.D. in Zoology in Austria and Finland. Petra's previous diploma studies focused on raptor research and conservation biology. Her Ph.D. dissertation was a joint project between the University of Vienna, the Natural History Museum Austria, and the University of Turku, Finland. The study investigated whether city dwelling raptors, such as Eurasian kestrels (*Falco tinnunculus*), are attracted to breed in the city center by favorable conditions, such as the availability of suitable nest sites or high levels of potential prey, or are pushed out of rural areas by unfavorable conditions there.

After research in urban ecology and in remote areas in northern Europe, in 2014 Petra migrated south and joined the Percy FitzPatrick Institute of African Ornithology as a post-doctoral fellow. She joined the Raptor Research group supervised by Dr Arjun Amar; together they have initiated an urban ecology team with the main aim to understand the establishment of urban raptor populations and predict their future population trends under the threat of global change. Petra's research takes advantage of the long-term monitoring of the urban raptors in Cape Town, with the Black Sparrowhawks (*Accipiter melanoleucus*) having been monitored for 15 years and Andrew Jenkin's monitoring of the Peregrine Falcons (*Falco peregrinus*) having been on-going for over 27 years! During these study periods both species have expanded their population size within the urban environment. Petra will analyse both long-term data sets of individually marked birds to estimate their population trends using integrated population modelling as a novel tool which implements Bayesian statistics.

Within that context, the Leslie Brown Memorial Award will cover the costs for a workshop on Bayesian integrated population modelling using the software BUGS and JAGS in October 2015 at the Statistics Department at the University of Cape Town and provide additional funds for running field work expenses. The main analysis will identify species specific parameters of habitats and their associated prey abundances which attract raptors to urbanized areas and to analyze how these settlement decisions influence breeding success and survival. Different degrees of urbanization and climate change scenarios will then be modeled to estimate the population trends that might be predicted under different future scenarios (both climate and urbanization). The impact of urbanization on wildlife is a subject of growing concern among scientists, conservationists and policy makers alike. The project focuses on top predators which are of specific interest in this context because they can have cascading effects within ecosystems.

For more information on her research contact her at: petra.sumasgutner@gmail.com
(http://www.fitzpatrick.uct.ac.za/docs/petra_sumasgutner.html).

Tom Cade Award

Submitted by Jeep Pagel, Paul Andreano, and Grainger Hunt

Janet Linthicum

As research associate with the Predatory Bird Research Group, University of California at Santa Cruz under the direction of the late Brian J. Walton, Janet offered scientific input and advice to hundreds of raptor biologists in California and around the world. She was an early pioneer in captive propagation of raptors and developed unique and innovative techniques to hatch hundreds if not thousands of thin-shelled Peregrine Falcon eggs for release of the chicks into the wild. She also shared with her colleagues practiced methods to hatch and raise Aplomado Falcons, Harris' Hawks, Harpy Eagle, Elf Owls, and other rare birds of prey. In the course of her daily work, she interacted directly with many state and federal biologists, kept field staff in multiple states on task, and collated and archived the enormous amount of data acquired by friends and colleagues in the field.



Janet was an avid flyfisherwoman who truly loved the sport, raptors, and the world around her

With her characteristic left-handed scrawl, Janet patiently edited and commented upon the manuscripts of many grateful *Journal of Raptor Research* authors. She was always available to help her colleagues in all aspects of propagation of any bird of prey, literally 24 hours a day. Her early, intuitive grasp of now-familiar computer programs helped many of her colleagues learn to master them. She sparked our enthusiasm and helped many former and current Raptor Research Foundation members develop better approaches to examining data and understanding their place in the larger scheme of natural ecosystems. Laughter, wit, and wisdom were always available in plenty. Above all, she was a scientist who cared deeply for her friends and their study species.

Despite her young age, Janet succumbed to early-onset Alzheimer's disease in January of 2016. While her father spent much of his 70+ year career trying to understand the intricate biology of the inner ear, comprehending the deep implications of this disease has been a steep learning curve for her family, and a great loss for her family, friends and colleagues.

The James R. Koplin Travel Award

The Koplin Award supports travel costs for students who are a senior author and presenter of a paper or poster at an RRF Conference. The 2015 awardees were: **J. Rowen Van Eeden** (University of Cape Town, South Africa), **Marie-Sophie Garcia-Heras** (Univ. of Cape Town), **Megan Judkins** (Oklahoma State Univ.), **Tempe Regan** (Boise State Univ.) and **Robert Spaul** (Boise State Univ.).

The Stephen R. Tully Memorial Grant

The Tully Grant supports research and conservation of raptors specifically to students and amateurs with limited access to alternative funding. The 2015 awardee was **Danielle Floyd** – “Northern Saw-whet Owl population in the Southern Appalachian mountain range”.

The Dean Amadon Grant

The Amadon Grant assists researchers working in the area of distribution of and systematics of raptors. The 2015 awardee was Ellen Robertson – “Effective dispersal and implications for population connectivity in an Endangered raptor – *Rostrhamus sociabilis*”.

The William C. Anderson Memorial Award

The Anderson Award is given to both the best student oral and poster presentation at the annual RRF Conference. The 2015 awardees were: [Oral]: **Tempe Regan** (Boise State Univ.) – “Barn Owl roadway mortality in Southern Idaho” and [Poster]: **Claire Nellis** (Boise State Univ.) – “Does being bugged cause stress and alter behavior of Burrowing Owls?”

RRF President's Award

This Award is given in recognition and appreciation of exceptional service to the Raptor Research Foundation. In 2015, President Clint Boal awarded it to **Travis Booms** and **Libby Mojica**.

CONGRATULATIONS TO ALL OF THE WINNERS AND NOMINEES!!!!

Raptor News

2016 World Owl Hall of Fame Award Winners

Submitted by Karla Bloem

Each year the World Owl Hall of Fame presents awards to humans and owls who go above and beyond to make the world a better place for owls. The nominees are judged by a panel of five experts from four countries who span the fields of research, conservation, education, and rehabilitation.

Pertti Saurola from Finland is receiving the highest honor, the Champion of Owls Award. This award is for people who have spent a lifetime working for owls, on at least a continental scale in multiple fields. Pertti has dedicated over 50 years of his life to studying owls, erecting and monitoring nest boxes, and banding many thousands of owls. He has been heavily involved in the leadership of banding organizations in Finland and for all of Europe. He has spoken at conferences around the world and is able to work with colleagues in a variety of countries thanks to his ability to communicate in many different languages.



Pertti Saurola mind-melding with a Ural owl



**Ronald van Harxen &
Pascal Stroeken**

The Special Achievement Award is presented to people who have done intensive work in a single field or a small geographic area. Two awards are being presented in 2016.

Ronald van Harxen and Pascal Stroeken were two of the founders of Steenuil Overleg Nederland (the Dutch Little Owl Working Group). Although not professional biologists, their passion has united and recruited others to study the Little Owl in The Netherlands since the 1980s. They published a comprehensive handbook for anyone working with the Little Owl in their country, and they are the go-to people for conservation organizations seeking more information about Little Owls in The Netherlands.

Most everyone who seriously works with owls has seen the detailed and extensively researched illustrations produced by Friedhelm Wieck of Germany, the other Special Achievement Award winner. He has illustrated "Owls of the World" by Claus Koenig as well many other scientific papers and books, including his own, over many decades.

The Lady Gray'l Award is named for a Great Gray Owl who worked with Robert Nero in Canada for over 20 years. Two owls will be receiving the award in 2016.

Nemo the Long-eared Owl worked with Bob Nero's protégé, Jim Duncan, in and around Winnipeg. Nemo helped educate 12,000 people about owls while raising \$50,000 to support owl conservation and graduate students studying owls. Recordings of his vocalizations, photographs of his feathers, and behavioral observations of Nemo have all contributed to greater understanding of his species and research efforts.



Friedhelm Wieck



**Nero the Long-eared Owl
and Jim Duncan**

Dudley the Great Horned Owl worked his entire 28-year career at the Carolina Raptor Center in North Carolina. He educated thousands of people during his lifetime, including everyone from students to prisoners to the military to politicians, including many governors. He helped raised thousands of dollars for conservation and awareness of conservation issues.



**Dudley the Great
Horned Owl**

The World Owl Hall of Fame awards were presented on March 5, 2016 in Caledonia, MN at the International Festival of Owls banquet. The awards are sponsored by the International Owl Center, the Global Owl Project, Bob Kierlin and Mary Burrichter, and Tanja Sova.

American Eagle Foundation Accepting Eagle Grant Proposals

Submitted by Jody Millar

The American Eagle Foundation (AEF) will again be accepting grant proposals for work that promotes the conservation of eagles. This will be the 5th year the AEF has funded efforts by scientists, agency personnel, and non-profit organizations to further our understanding and protection of bald eagles. Grant proposals will be accepted between **July 1 and September 1, 2016** for work to be carried out the following year (2017). The AEF recommends interested parties submit pre-proposals so that we may provide guidance in relation to our grants, and gain awareness of the variety of projects to be submitted.

AEF obtained funding for this grants program in 2004, when both the U.S. Senate and House unanimously passed the "Bald Eagle Commemorative Coin Act." Congress authorized the U.S. Mint to mint gold, silver and clad coins, which they sold to the public in 2008. AEF continues to make those coins available to the public via its web site.

Sales from the U.S. Mint generated \$7.8 million in 2004, which Congress designated that AEF utilize for the benefit of bald eagles. AEF set aside 75% of these funds, or approximately \$5.8 million, to perpetually grow in the American Eagle Foundation Fund to provide competitive annual grants for bald eagle projects.

AEF uses a Bald Eagle Grant Advisory Team to numerically rate all grant applications. This team consists of some of the Nation's most outstanding eagle experts. Over \$400,000 in eagle grants have been awarded since 2012, with about \$100,000 awarded yearly (no awards were granted for 2013).

Locations of projects range nation-wide. For a complete listing of successful grants to date, please see our web site, <http://www.eagles.org> and follow the "Programs" link.



Additional information on grant application may be found at www.eagles.org/grants or contact Jody Millar, AEF Grants Coordinator at eaglegrants@gmail.com

**The International Centre for Birds of Prey,
Newent, Gloucestershire, UK**
Submitted by Jemima Parry-Jones

Global warming does seem to be changing our environment here in the UK, we have just gone through the warmest and sadly wettest winter I have known. The grass has never stopped growing although the ground is so saturated that it is impossible to mow. Wild flowers and even domestic garden plants are way ahead of their usual flowering time. However our raptors here don't seem to be breeding particularly early.

This year we have launched a Little Owl (*Athene noctua*) nest box scheme with local apple growers, we are in a strong apple growing area with several famous cider producers in Herefordshire. The Little Owl has suffered a 60% population decline in the last decade, due to lack of nest sites, habitat change and poor survival of young. Because it is an introduced species it has had less attention focused on it. However this is now changing and this charming little bird is ever popular as unlike many introduced species it has filled a niche that was vacant. We have a good population literally all around us with one pair nesting in a box on our property. It should be an interesting project to work on and a huge change from all the vulture work that we are doing.



The vulture crisis increases the world round - six of Africa's 11 species of vultures are now on the edge of extinction. Vultures in Africa and Europe could be extinct in our lifetime – both comments from BirdLife International.

We have been involved in the vulture crisis in South Asia for 16 years now and have recently become involved in programmes in South Africa and Bulgaria. The work that we do here on captive breeding may well turn out to be far more important than we ever considered when looking at the declines in these important birds.

Our work in India has been very successful and we have now reached the stage of working on the first release of Oriental White-backed Vultures (*Gyps bengalensis*) in the next year. SAVE, the group in which we are a core member is working on every aspect of the problem and the releases, from carcass sampling, drug testing, banning of known lethal drugs, working on Vulture Safe Zones as well as preparing birds for the first soft release.

The Centre has survived its first full year with charitable status and we have many new plans coming up for which we will be looking hard for grants and funding to achieve our goals. Vultures will feature highly, and we are working on breeding more species of vultures for the future.

However all the other species that we hold here, about 74 in total at this time, will not be forgotten and our work in educating the public which is crucial for any conservation project continues. Our birds continue to fly superbly for the visitors, and we continue to research and learn from them on a daily basis.



The Peregrine Fund

Submitted by Erin Katzner

Registration is Now Open for the IV Neotropical Raptor Conference and II Symposium on Neotropical Owls in Costa Rica

The Neotropical Raptor Network, The Peregrine Fund, Fundacion Rapaces de Costa Rica and Grupo de Especialistas de Buhos Neotropicales will host the conference and owl symposium in La Fortuna, Costa Rica from **10–13 October 2016**.

Biologists, students, falconers, educators, and other conservationists will come together to share their latest research results, successes and challenges. The conference will also act as a meeting point to foster discussion and collaboration on solutions to both present and future conservation issues such as habitat destruction, electrocution, human persecution of raptors and climate change.

In addition to 3 days of scientific oral and poster sessions, social events and a full day of Raptor Skills Courses there will be time to enjoy the town of La Fortuna de San Carlos and the fantastic birding in the forests on the slopes of Mt. Arenal. One of the most-visited areas of the country, La Fortuna is surrounded by national parks, hot-springs, streams, waterfalls and of course, the now dormant Arenal volcano, making it an excellent location for birding, hiking, zip-lining, rafting, and other outdoor activities.

Registration is now open! Visit nrn.peregrinefund.org for conference details and to register online today.

African Vulture Crisis Featured in January Issue of National Geographic Magazine

The Peregrine Fund and collaborators were featured in a National Geographic Magazine article, “Vultures: More Vital Than Vile” and the international attention couldn’t come at a more dire moment for vultures. In the article Dr. Darcy Ogada, Assistant Director of Africa Programs describes vultures as “the most threatened avian functional group in the world.” Six of eight African species of vulture are endangered, and thanks in part to Ogada’s and collaborator’s work, four species were up-listed to Critically Endangered by the IUCN’s Red List last year.

Dr. Ogada, colleague Dr. Munir Virani, and a team of collaborating organizations have recently shown that poisoning accounts for 61 percent of vulture deaths across Africa. Accidental poisoning of vultures occurs when local livestock keepers poison a carcass to kill lions and hyenas to protect their cattle from predation. Purposeful poisoning occurs when poachers poison a carcass to kill vultures who might give away their locations by circling above freshly poached animals. One poisoning event received worldwide media coverage when three of the famous Marsh Pride lions featured on Big Cat Diary were killed after eating a poison-laced cow carcass. Eleven endangered white-backed vultures also died from feeding on the carcass.

The National Geographic article goes into detail on how and why poisoning has become such a large issue for vulture conservation as well as describing why vultures are worth saving. When vultures are missing from an ecosystem, disease ridden carcasses begin piling up. “Vultures can consume anthrax, botulism, and other pathogens that are harmful to livestock and humans,” says Virani, “and as populations of feral rats, cats and dogs increase in the absence of vultures, people may be exposed more often to diseases such as rabies and plague.” Losing a population of vultures can cause ecological and economic devastation for communities across the region.

Injured Andean Condor Successfully Recovered and Released Back to Ecuador’s Skies



Paway the Andean Condor

The Peregrine Fund in collaboration with the Ministry of Environment of Ecuador and members of the Andean Condor Working Group are excited to announce the successful rehabilitation and release of an Andean Condor – the world’s largest bird of prey. This newly released condor is a young male named Paway who was injured and unable to fly. Paway was cared for by veterinary staff for two and half months before he was ready for release in the high paramo habitat of Zuleta in northern Andes of Ecuador.

The Peregrine Fund and Andean Condor Working Group have been working in collaboration with the Ministry of Environment of Ecuador to monitor and reinforce the small population of condors in Ecuador – estimated at around 100 individual birds. To aide

in these efforts, the team of collaborators has been utilizing radio-telemetry units to track the movements of several Andean Condors. Paway will join this group of monitored birds wearing a high-tech GPS-GSM transmitter developed by Cellular Tracking Technologies (CTT) which donated the unit to the project. The telemetry unit was attached to Paway's right wing and will not interfere with his ability to function as a normal condor.

The GPS-GSM unit is particularly exceptional because it transmits information over the cellular phone network rather than previous models of telemetry that used less efficient, satellite transmission. In addition, it is able to provide more data point readings than the satellite versions. Dr. Hernan Vargas, Neotropical Program Director at The Peregrine Fund, says, "By providing this telemetry unit, CTT has enabled us to study the spatial use of this critically endangered species in Ecuador. We are excited about the information this new unit will provide."

Gyr Falcon Project Featured in Audubon Magazine

The Peregrine Fund and Boise State University are featured in Audubon Magazine's January issue. The article showcases The Peregrine Fund's Gyr Falcon Project and Boise State student, Bryce Robinson, whose Master's thesis focuses on Gyr Falcon diet on the Seward Peninsula in the context of a changing world. Robinson is co-advised by Dr. Marc Bechard, a Professor at Boise State, and

Dr. David Anderson, Director of the Gyr Falcon Project at The Peregrine Fund. The article, "What One Magnificent Predator Can Show Us About the Arctic's Future" highlights the critical reason for studying these magnificent predators and the difficulties of studying a cliff-dwelling species in the middle of the arctic tundra. Robinson spent most of two summers rappelling over cliffs to reach Gyr Falcon eyries, or nest ledges, perched high above the ground to install nest cameras. His fall semester was spent staring at computer screens studying hundreds of thousands of images of prey remains at the nests to determine what these fearsome fliers were feeding their chicks.

Raptors at Risk Photography Competition 2016

Thanks to a successful inaugural year, The Peregrine Fund is preparing to host a second photography competition in 2016. The theme, Raptors at Risk, encourages both amateur and professional photographers to capture the life stories of eagles, hawks, vultures, owls, falcons, and other raptors.

Raptors at Risk has been recognized by the Photographic Society of America (PSA), one of only four organizations authorized to oversee the work of accomplished photographers worldwide. In its first year, Raptors at Risk received 311 entries from photographers in 14 countries, featuring around 70 species.

Accepted entries may be applied toward PSA's Star Ratings achievements and will be exhibited in the online catalog. Winning entrants will receive PSA medals and ribbons, plus cash and merchandise prizes to be announced. Entries may also be considered for publication in The Peregrine Fund's 2017 Birds of Prey Calendar. Entrants are invited to submit up to four photos from May 1 to June 12. Rules and reference materials are available at:

www.peregrinefund.org/raptors-at-risk.

Recent Changes to U.S. Falconry Regulations and How They Relate to Raptor Research and Conservation

Submitted by Jennifer Coulson

Major revisions to the U.S. regulations governing the sport of falconry include several changes that pertain to or could affect raptor research and conservation. Changes that are most likely to be of interest are those involving: wild take and possession limits, species added to the falconry harvest (including some eagles), take of threatened species, restrictions on the use of hybrids, and language specifying what a falconer's options are if a research/marked raptor is captured.

Background: On October 8, 2008, the U.S. Fish and Wildlife Service (FWS) published in the *Federal Register* a major revision to the regulations governing falconry in the U.S. and its territories. The intent was to simplify and clarify regulations and update them to reflect current falconry practices. George Allen, Division of Migratory Bird Management, FWS, led the revision process. One major change involved turning permitting over to the states, a proposal advanced by the Association of Fish and Wildlife Agencies. Previously, falconry had been administered under a joint federal and state permitting process. Under the new regulations, the federal government maintains oversight, and permitting is now in the hands of U.S. states, territories and tribes. Each state had to adopt laws and regulations that met federal standards by January 1, 2014, at which time the federal permitting program was discontinued. State regulations can be more but not less restrictive than the federal falconry standards. This means that the regulations now differ across the states, territories, and tribes. Most of what I provide here is based on the new federal standards.

Explaining the changes pertinent to wild raptors necessitates further background information regarding falconry permitting levels. The 3 main falconry permit levels are: Apprentice Falconer (0–2 years of experience), General Falconer (2–7 years), and Master Falconer (7+ years).

Wild take remains limited as to the number of raptors an individual falconer may harvest within a year. Regardless of the experience level, a falconer may take no more than 2 raptors from the wild annually. The wild take continues to be restricted to raptors less than one year of age for most species as the falconer is less likely to remove a breeder and young raptors are easier to train.

Possession limits for wild raptors have increased slightly for experienced falconers. The Apprentice Falconer is still allowed only 1 raptor, regardless of origin. A General Falconer may now possess up to 3 wild raptors (formerly 2), and a Master Falconer may now possess up to 5 wild raptors (formerly 3). For the Master Falconer, 3 of the 5 may be native eagles, except for Bald Eagles.

Falconers are now allowed a limited harvest of most native diurnal and nocturnal raptors. Under the new regulations, depending on the level of experience and state restrictions, falconers are permitted to harvest from the wild any species from the Orders Falconiformes, Accipitriformes and Strigiformes, except a Bald Eagle. Apprentice Falconers are not allowed to take or possess federally listed threatened or endangered species or the following species: native eagles, Swallow-tailed Kite, Swainson's Hawk, Peregrine Falcon, Flammulated Owl, Elf Owl, and Short-eared Owl. General

Falconers are allowed the above species except for endangered raptors and native eagles. Master Falconers are also allowed to take native eagles of the following species: Golden Eagle, Steller's Sea-Eagle, and White-tailed Eagle. According to the Bald and Golden Eagle Protection Act, Golden Eagles may be taken from the wild for use in falconry, and falconers may only take those that would be taken because of depredations on livestock or wildlife (i.e., under a federal depredation permit or under a depredation control order). No Golden Eagles were harvested for falconry in 2015.

Harvest of wild Peregrine Falcons is restricted to General and Master Falconers and is limited by state. The FWS determines the annual take and then tells the states what their maximum harvest can be. Louisiana, for example, is currently allowed a harvest of 1 juvenile per year. Most states use a lottery system for a Peregrine Falcon trapping permit. General and Master Falconers are allowed to take no more than 1 raptor of a threatened species from the wild each year, provided the falconer obtains a federal endangered species permit and the state allows the take.

Many states chose to adopt the federal falconry standards without removing any raptors of conservation concern from the list of harvestable species. This has resulted in a few isolated instances of raptors of conservation concern being harvested by falconers. For example, a Swallow-tailed Kite was recently taken in Texas and a Short-tailed Hawk in Florida. Raptor biologists and conservationists should review the species list allowed for falconry harvest in their state and recommend changes if appropriate. From a conservation perspective, there are probably few situations where the take of one or a few individuals should be prohibited. However, take should be limited when a species is beginning to reclaim its former range within a state, and only small numbers of satellite pairs and individuals are present.

The federal falconry standards spell out in detail what a falconer should do if he or she captures a research bird. If the raptor has a USGS Bird Banding Laboratory (BBL) aluminum band, the falconer must report the band number immediately to the BBL. The falconer may keep the raptor. However, Peregrine Falcons must be released immediately. If the falconer captures a raptor, including a Peregrine Falcon, wearing a transmitter, the falconer may possess the bird up to 30 days to contact the researcher and determine whether he/she wishes to replace the transmitter or batteries or remove the transmitter. If the researcher wishes to remove the transmitter, the bird's disposition will be at the discretion of the researcher and the state's falconry agency.

Regulations were added to help prevent the escape of hybrids and the release of hybrids and non-natives, thus reducing the chances of interbreeding with native wild raptors. The regulations clearly state that a falconer may not permanently release hybrid raptors to the wild. When flown free, a hybrid raptor must wear at least 2 functioning radio transmitters to help locate the bird and prevent loss. Language was also added to make it clear that a falconer may not release any raptor in a state where the species is not native.

When considering population-level impacts on wild raptors, falconry take is not likely to have an impact. There are fewer than 4,000 licensed falconers in the U.S. Some licensees do not possess a raptor; most have only 1, and many raptors used in falconry are captive bred. The most frequently raptor from the wild is the abundant Red-tailed Hawk. Finally, the FWS's 2007 Final Environmental Assessment found that the falconry wild take had no significant impact on wild raptor populations.

Recent Theses on Raptors

Nordell, Cameron J. 2015. Ferruginous Hawk (*Buteo regalis*) responses to human disturbance during the breeding season. M.S. Ecology. University of Alberta, Edmonton, Alberta, Canada

The expansion of the human footprint across the world is increasing the number of interactions between humans and wildlife. Many studies have quantified wildlife behavioral responses to humans, as this is an active area of research with practical implications for species conservation. Animal behavior may be influenced by the properties of the disturbance itself, the environment in which the interaction occurs, and the individual's past experience, but these potentially important factors have rarely been evaluated. Furthermore, it is unclear how individuals behave through time after a human disturbance. In southern Alberta and Saskatchewan, I quantified flight initiation from the nest by Ferruginous Hawks (*Buteo regalis*) in response to approaching investigators and used digital video systems to quantify their behavior following investigator departure. In Chapter 2 I studied the flight initiation distance (FID), which is the distance at which flight is initiated from the nest in response to an approaching threat, by adult Ferruginous Hawks. We used FID to quantify the relative probability of flight during a given approach. Probability of flight was related to the type of approach by the investigator, the anthropogenic landscape around the nest, and the number of previous visits by investigators. Approaches by humans on foot resulted in a greater probability of flight than those in a vehicle. Approaches while driving on private access roads, which are roads used infrequently by vehicles, were associated with increased probability of flight relative to other road types. Probability of flight was negatively related to an index for the number of vehicles passing near the nest, and increased as the number of previous investigator approaches to the nest increased. Chapter 2 highlights the dynamic and complex nature of the decision to initiate flight from the nest and provides insight as to why probability of flight varies within a species. Having explored factors influencing the Ferruginous Hawk's decision to initiate flight in response to human disturbance in Chapter 2, Chapter 3 focused on the behavioral consequence through time after being disturbed by humans. Here, I used digital video footage of Ferruginous Hawk nests to document behavior at the nest of adult males and females up to 12 hours following an investigator disturbance, and test two non-exclusive hypotheses that may explain differences in behavior relative to undisturbed control periods. On average, across the 12-hr sample period, female Ferruginous Hawks spent significantly less time on the nest following investigator disturbance compared to controls, but individual variation was high. Delivery of prey items to the nest was not significantly different between disturbed and control sample periods for the same nests. Time on nest was initially lower for disturbed females than for controls but became more similar over the span of the 12-hr sample period. Age of nestlings and number of nestlings were important, as female time on the nest returned to control-levels more quickly for individuals with young nestlings or larger broods. Thus, I found support for both the harm-to-offspring and reproductive value hypotheses. This was among the first studies to identify that disturbed animals demonstrate behavioral differences up to 12 hour following disturbance. The ability to adjust

flight initiation behavior in response to types of human approaches and the consistent delivery of prey when disturbed suggested that Ferruginous Hawks nesting in the highly anthropogenic regions of southern Alberta and Saskatchewan demonstrated the behavioral tolerance necessary to coexist with some human disturbance at the nest site. However, I also found instances of Ferruginous Hawk flight initiation at large distances, and that some individuals reduced time on nest for lengthy durations following a human disturbance. Understanding how these extreme behaviors relate to reproductive success of Ferruginous Hawks is likely essential to understanding human impacts on the population in Canada. My research was intended to contribute to the ongoing conservation effort for this species, and I discuss potential implications for management in Chapter 4. My research provides insight into the disturbed behavior of Ferruginous Hawks. I suggest that management policies should vary the size of protective setbacks according to the apparent degree of sensitivity of adults during different nesting stages and for different types of disturbance. For example, after most nearly all clutches have hatched (by mid-June), 500-m setbacks should effectively prevent Ferruginous Hawks from being disturbed by low-level disturbances, such as passing vehicles.

ANNOUNCEMENTS and BRIEF NEWS ITEMS

For Sale

RRF Publications, Pins, and Decals – Hard copies of *The Journal of Raptor Research* (Vol. 1-30), most Raptor Research Reports, and RRF pins and decals may be purchased directly from RRF (Angela Matz, 101 12th Ave., Room 110, Fairbanks, AK 99701, USA; email: angela_matz@fws.gov). See http://raptorresearchfoundation.org/back_issues_jrr.htm for details and prices. Orders for 4 or more issues receive a 30% discount. Hard copies of *The Journal of Raptor Research* (Vol. 31+) may be purchased from Ornithological Societies of North America (5400 Bosque Blvd, Suite 680, Waco, TX 76710, USA; phone: 1-254-399-9636; email: business@osnabirds.org; web: <http://www.osnabirds.org>). Some older issues are not available in hardcopy; but all issues from Vol. 1-39 are available on SORA (<http://elibrary.unm.edu/sora/jrr/>) for free download.

Announcements

The GGRO has some overstock of the 2015 RRF color-printed abstract booklet for the 2015 RRF Conference in Sacramento, CA. The suggested donation to cover printing, postage and handling is \$20 per booklet. Please make checks out to “Golden Gate Raptor Observatory” and send via snail-mail to: Laura Young, GGRO, Bldg 1064, Ft Cronkhite, Sausalito, CA 94065, USA. North American requests only.

Journal of Raptor Research 50 (1) Publication Delayed

Due to severe storm damage affecting one of Allen Press's vendors, production of *Journal of Raptor Research* Volume 50 Issue 1 has been delayed. Allen Press apologizes for the problem and projects a mailing date of March 29 for this issue.

Cheryl Dykstra, *Journal of Raptor Research* Editor-in-chief

Raptor Management and Techniques Manual Available On-line!

The 2nd Edition of the *Raptor Management and Techniques Manual* – Edited by David Bird and Keith Bildstein – is now available for download (as a PDF) on the Raptor Research Foundation's website

<http://www.raptorresearchfoundation.org/publications/techniques-manual>



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